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(54) Title: RECIRCULATING FLUIDIC NETWORK AND METHODS FOR USING THE SAME

(57) Abstract: The present invention provides microfluidic devices comprising elastomeric components and solid substrate component for attaching ligands and methods for conducting a variety of assays and high throughput screening. The elastomeric components comprise a plurality of first and second flow channels forming a plurality of intersecting areas, further capable of forming looped flow channels, and in fluid communication with the solid substrate surface, a plurality of control channels, a plurality of first and second control valves, and a plurality of loop forming control valves.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/19775

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 33/53

US CL : 435/7.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/7.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,922,591 (ANDERSON et al) 13 July 1999 (13.07.1999), see entire document	1-28, 30, 32-33
Y	US 6,225,109 B1 (JUNCOSA et al) 01 May 2001 (01.05.2001), see entire document	1-28, 30, 32-33
Y	US 6,140,045 (WOHLSTADTER et al) 31 October 2000 (31.10.2000), see entire document	1, 14-31
Y	US 6,197,595 B1 (ANDERSON et al) 06 March 2001 (06.03.2001), see entire document	1, 3-9, 14-33
Y, E	US 6,645,432 B1 (ANDERSON et al) 11 November 2003 (11.11.2003), see entire document	1-33
Y, P	US 6,488,872 B1 (BEEBE et al) 03 December 2002 (03.12.2002), see entire document	1-13, 32-33
Y	US 5,928,880 A (WILDING et al) 27 July 1999 (27.07.1999), see entire document	1-33



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Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

The abstract is too long (PCT Rule 8.1(b)). The abstract must be less than 150 words, or 200 words when no figure is to be published.

NEW ABSTRACT

The present invention provides microfluidic devices comprising elastomeric components and a solid substrate component for attaching ligands and methods for conducting a variety of assays and high throughput screening. The elastomeric components comprise a plurality of first and second flow channels forming a plurality of intersecting areas, further capable of forming looped flow channels, and in fluid communication with the solid substrate surface, a plurality of control channels, a plurality of first and second control valves, and a plurality of loop forming control valves.